

CURRICULUM VITAE

Dr. PANKAJ PRATAP SINGH

M.Tech (IIIT Allahabad), PhD (IIT Roorkee)

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FIELD OF INTEREST

Computer Science and Engineering	Artificial intelligence, Satellite Image Processing, Data Mining
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PRESENT DESIGNATION

	Designation	Assistant Professor (Department of computer science and engineering)
	Organization	केंद्रीय प्रौद्योगिकी संस्थान, कोकराझार Central Institute of Technology Kokrajhar (A Centrally Funded Institute Under MHRD, Govt. of India)

HOME ADDRESS

Q. No. 2/117
Avas Vikas Colony
Hathras, Uttar Pradesh - 204101
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CORRESPONDING ADDRESS

Department of Computer Science and Engineering
Central Institute of Technology Kokrajhar
Balagaon, BTAD, Kokrajhar, Assam - 783370
Contact No.: 8134855094

PROFESSIONAL QUALIFICATION

Degree	Institute/ University	Date of completion	Subjects/Branch	percentage/ grade
B.E.	Dr. B. R. Ambedkar University, Agra (U.P.)	2003	Computer Science & Engineering	73.5%
M.Tech.	Indian Institute of Information Technology Allahabad	2008	Information Technology (Specialization in Intelligent System)	8.28/10
PhD	Indian Institute of Technology Roorkee	December 30 th , 2014	Efficient Hybrid Classification of Urban Objects using High Resolution satellite images	Final Defence on July 6 th , 2015

TEACHING EXPERIENCES**Total Teaching Experience:** 8 years 2 months approx.**(Post MTech Experience** (3 year 2 months approx.))**(Post PhD Experience** (1 year 10 months approx.))**Research Experience:** 04 years (During PhD full time)**EXPERIENCE AND EMPLOYMENT RECORD**

Organization / Institute	Position held	Nature of duties / work	Date of joining	Date of leaving	Experience (Approx.)
Central Institute of Technology, Kokrajhar (Assam)	Assistant Professor	Teaching	09-03-2015	Working till data	2 Years 2 Months
Institute of engineering & Technology, alwar (Rajasthan)	Assistant Professor	Teaching and contribution in Accreditation and Research Lab development	01-02-2009	30/07/2009	6 Months
Shekhawati engineering college, Dundlod (Rajasthan)	Assistant Professor	Teaching and Relieving officer in R.T.U. Examination 2009	01-08-2008	30/01/2009	6 Months
Indian Institute of Information Technology Allahabad (U.P.)	Teaching Assistant	Teaching Assistantship and Research work	25-07-2006	25/06/2008	2 Years
S.I.E.T., Allahabad (U.P.)	Lecturer	Teaching	16-07-2004	16/06/2006	2 Years
B.B.D.I.T., Ghaziabad (U.P.)	Lecturer	Teaching	13-07-2003	13/06/2004	1 Years

Courses Handled

B.Tech. (8 th Semester) level:	Artificial Intelligence
B.Tech. (8 th Semester) level:	Data Mining and Data Warehousing
B.Tech. (8 th Semester) level:	Robotics and Computer Vision
B.Tech. (6 th Semester) level:	Advanced Computer Architecture
B.Tech. (5 th Semester) and Diploma (4 th Semester) level:	System Software/ System Programming
Diploma (4 th Semester) level:	Programming in C/C++

RESEARCH PUBLICATIONS: 22**Journals:** 5 (4 SCI with impact factor)**Book Chapters:** 3 (Published in Springer)**International Conferences:** 12 (published in IEEE, Springer)**National Conferences:** 2

RESEARCH PUBLICATIONS:

International and National Journals

- 1) Pankaj Pratap Singh and R.D. Garg, (2012). “Automatic road extraction from high resolution satellite images using adaptive global thresholding and morphological Operations”, *Journal of the Indian Society of Remote Sensing*, **Springer**, Vol. 41, No. 3, pp. 631-640. (SCI, Impact factor 0.764)
- 2) Pankaj Pratap Singh and R.D. Garg, (2013). “A Hybrid approach for Information Extraction from High Resolution Satellite Imagery”, *International Journal of Image and Graphics*, **World Scientific**, Vol. 13, No. 2, pp. 1340007(1-16).
- 3) Pankaj Pratap Singh, and R. D. Garg, (2014) “Classification of high resolution satellite image using spatial constraints based fuzzy clustering,” *Journal of Applied Remote Sensing*, **SPiE**, Vol. 8, No. 1, pp. 083526(1-16). (SCI, Impact factor 1.183)
- 4) Pankaj Pratap Singh, and R. D. Garg, (2014) “A two-stage framework for road extraction from high-resolution satellite images by using prominent features of impervious surfaces,” *International Journal of Remote Sensing*, **Taylor & Francis**, Vol. 35, No. 24, pp. 8074-8107. (SCI, Impact factor 1.652)
- 5) Pankaj Pratap Singh, and R. D. Garg, (2015). “Fixed Point ICA based approach for maximizing the non-gaussianity in remote sensing image classification,” *Journal of the Indian Society of Remote Sensing*, **Springer**, Vol. 43, No. 4, pp.851–858. (SCI, Impact factor 0.764)

Book Chapters

- 1) Pankaj Pratap Singh, and R. D. Garg, (2013). Information Extraction from High Resolution Satellite Imagery Using Integration Technique. In the book “*Intelligent Interactive Technologies and Multimedia*”, Vol. 276, CCIS, Edited by: A. Agrawal, R.C. Tripathi, E. Yi-Luen Do, M.D. Tiwari, **Springer Berlin Heidelberg**, pp. 262-271. (DOI: [10.1007/978-3-642-37463-0_24](https://doi.org/10.1007/978-3-642-37463-0_24))
- 2) Pankaj Pratap Singh and R. D. Garg, (2014). Classification of High Resolution Satellite Images using Equivariant Robust Independent Component Analysis. In the book “*Advanced Computing, Networking, and Informatics-Volume I*”, Vol. 27, SIST, Edited by: M.K. Kundu, D.P. Mohapatra, A. Konar, A. Chakraborty, **Springer Berlin Heidelberg**, pp. 283-290. (DOI: [10.1007/978-3-319-07353-8_34](https://doi.org/10.1007/978-3-319-07353-8_34))
- 3) Pankaj Pratap Singh and R. D. Garg, (2016). On Sphering the High Resolution Satellite Image Using Fixed Point Based ICA Approach. In the Book series “*Computer Vision and Image Processing - Volume 2*”, Volume 460, Advs in Intelligent Syst., Computing, Edited by: B. Raman, S. Kumar, P.P.Roy, D. Sen, **Springer Berlin Heidelberg**, pp. 411-419. (link.springer.com/chapter/10.1007/978-981-10-2107-7_37)

International & National Conferences

- 1) Pankaj Pratap Singh et al. “Flexible Mote Design- Fleximote”, In *IEEE sponsored Second International Conference on Wireless Communication and Sensor Networks(WCSN’06)*, pp. 753-762, December 17-19, 2006, **IITAllahabad**, India. (<http://wcsn.iita.ac.in/w2k6/>)

- 2) Pankaj Pratap Singh et al. **“Clustering Approach to Data Aggregation in Wireless Sensor Networks”** paper published in *IEEE sponsored International Conference on Networking (ICON 2008)*, pp. 26-31, December 13-14, **IIT Roorkee, India.** (DOI: [10.1109/ICON.2008.4772566](https://doi.org/10.1109/ICON.2008.4772566))
- 3) Pankaj Pratap Singh et al. **“Data Clustering in Sensor Networks using ART”** paper published in *IEEE sponsored Fourth International conference on Wireless Communication and Sensor Networks (WCSN’08)*, pp. 51-56, 27-29 Dec 2008, **IIT Allahabad, India.** (DOI: [10.1109/WCSN.2008.4772681](https://doi.org/10.1109/WCSN.2008.4772681))
- 4) Pankaj Pratap Singh et al. **“RFID based patient health record system”** in proceeding of National Conference on recent trends in Communication & Electronics design, 06-07 March, 2009, **IET Alwar, Rajasthan, India.**
- 5) Pankaj Pratap Singh et al. **“Campus Vehicle Tracking system using RFID Tag”** in proceeding of National Conference on recent trends in Communication & Electronics design, 06-07 March, 2009, **IET Alwar, Rajasthan, India.**
- 6) Pankaj Pratap Singh et al. **“RFID and Camera-based hybrid approach to track vehicle within campus”** paper published in *IACSIT sponsored International Symposium on Computing, Communication, and Control (ISCCC ‘09)*, Proc .of CSIT vol.1, pp. 207-213, October 9 - 11, 2009, **Nanyang Technological University (NTU), Singapore.** (<http://www.ipcsit.com/vol1/37-S004.pdf>)
- 7) Pankaj Pratap Singh and R.D. Garg, **“Land Use And Land Cover Classification Using Satellite Imagery: A Hybrid Classifier And Neural Network Approach”** paper published in *proc. of International Conference on Advances in Modeling, Optimization and Computing (AMOC-2011)*, pp.753-762 , Dec. 5-7, 2011, **IIT Roorkee, Roorkee-247667 (U.K.), India.**
- 8) Pankaj Pratap Singh et al., **“Hazards on an offshore Platform”** paper published in *proc. of International Conference on Sustainable Technologies for Energy and Environment in Process Industries (CHEMCON-2012)*, pp. P-619, Dec. 27-30, 2012, **Indian Institute of Chemical Engineers Doaba Regional Centre & Dept. of Chemical Engineering, Dr. B. R. Ambedkar National Institute of Technology Jalandhar, Jalandhar, Punjab, India.**
- 9) Pankaj Pratap Singh, et al., **“A Probabilistic Data Association Filtering (PDAF) based Tracking Approach to Detect Maneuvering Target”** paper published in *proc. of International Conference on Reliability, Infocom Technologies and Optimization (ICRITO’2013)*, Jan. 29-31, 2013, **Amity Institute of Information Technology (AIIT) Amity University, Noida, Uttar Pradesh, India.**
(<http://www.amity.edu/aiit/icrito2013/ICRITO'2013%20Sessions.pdf>)
- 10) Pankaj Pratap Singh and R.D. Garg, **“Study of Spectral reflectance characteristics of Asphalt Road surface using Geomatics Techniques”** in *proc. of IEEE sponsored 2nd International Conference on Advances in Computing, Communications and Informatics (ICACCI-2013)*, pp. 516-520, Aug. 22-25, 2013, **Sri Jayachamarajendra College of Engineering (SJCE), Mysore, India.** (DOI: [10.1109/ICACCI.2013.6637225](https://doi.org/10.1109/ICACCI.2013.6637225))
- 11) Pankaj Pratap Singh, R.D. Garg and P.L.N.Raju, **“Classification of High Resolution Satellite Imagery: An Expert System Based Approach”** in the *34th Asian Conference on Remote Sensing (ACRS 2013-Bali)*, pp. SC02(725-732), October 20-24, 2013, **Indonesia.**
(www.acrs2013.com/sites/media/uploads/2013/11/Session_2_716-894.pdf)

- 12) Pankaj Pratap Singh and R. D. Garg, “**Road detection from remote sensing images using impervious surface characteristics: Review and Implication**”, In *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, vol. **XL-8, ISPRS Technical Commission VIII Symposium**, pp. 955-959, December 09-12, 2014, Hyderabad, India. ([doi:10.5194/isprsarchives-XL-8-955-2014](https://doi.org/10.5194/isprsarchives-XL-8-955-2014))
- 13) Pankaj Pratap Singh and R. D. Garg, “**On Sphering the High Resolution Satellite Image using Fixed Point based ICA Approach**”, In *Springer and IAPR* sponsored International conference on computer vision & image processing, February 26-28, 2016, **IIT Roorkee**, India.
- 14) Pankaj Pratap Singh and R. D. Garg, “**Extraction of Image Objects in Very High Resolution Satellite Images using Spectral behaviour in LUT and Color Space Based Approach**”, In IEEE Technically Sponsored SAI Computing Conference, pp. 414-419, July 13-15, 2016,, London, UK. ([doi:10.1109/SAI.2016.7556015](https://doi.org/10.1109/SAI.2016.7556015))

CURRENT AREA OF RESEARCH

Academic	<ul style="list-style-type: none"> • Satellite Image Processing • Spatial Data Mining(Spatial Data and Time Series Data) • Soft Computing Techniques (Artificial Neural Network, Deep Learning, Fuzzy Logic)
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LAB DEVELOPMENT:

- Developing Robotics Lab
- Developing Satellite Image Processing Lab

MEMBERSHIP AND POSITION OF RESPONSIBILITY IN PROFESSIONAL SOCIETIES

Organization (Membership)	Membership No.
IACSIT (International Association of Computer Science and Information Technology, Singapore)	80333645
IUPRAI (Indian Unit For Pattern Recognition And Artificial Intelligence (ISI, India), Affiliate of IAPR (USA)	L-143
SPIE (Society of Photographic Instrumentation Engineers, USA)	3531878

SCHOLARSHIP RECEIVED

Level	Name of Award	Activity	Given By	Year
National	MHRD Fellowship Awarded (2 years)	To pursue M.Tech. in IIIT Allahabad	MHRD (On the basis of GATE qualified)	2006
National	MHRD Fellowship Awarded (4 years)	To pursue PhD in IIT Roorkee	MHRD (On the basis of M. tech Degree)	2011

POSITION OF RESPONSIBILITIES IN PROFESSIONAL SOCIETIES & WORKSHOP ORGANIZED

Organization	Position held	From	To	Nature of work
Indian Institute of Information Technology (IIIT) Allahabad (U.P.)	Head of Registration Committee in a six day Intensive course on Soft Computing Techniques & Applications	15 th May 2007	20 th May 2007	To derive all the registration regarding work
Shekhawati engineering college, dundlod, Jhunjhunu (Rajasthan)	Relieving Officer in RTU examination-2009	August, 2008	January, 2009	To drive R.T.U. and R.U. semester exams precisely
Institute of engineering & Technology, Alwar (Rajasthan)	Co-ordinator of CSE Department	February, 2009	July, 2009	To schedule the time-table of classes and design the lab experiments
C.I. T. Kokrajhar, (Assam)	Faculty-in charge (Research & Development)	September 30, 2015	Till date	To organize seminar, workshop, conferences and local research activities
C.I. T. Kokrajhar, (Assam)	Faculty-in charge (ECSTASY)	September 30, 2015	Till date	Organized Annual Week Festival Event 2016
C.I. T. Kokrajhar, (Assam)	Co-cordinator (International Workshop on Role of TAITES-2016)	January 21, 2016	January 23, 2016	Organized International Workshop

OTHER INFORMATION & ACHIEVEMENT

- 1) **Guest Editor** in Special Issue on: “*Biomedical Signal and Imaging Trends and Artificial Intelligence Developments*” of **INDER SCIENCE JOURNAL “International Journal of Computational Systems Engineering”**.
- 2) Invited for lecture series at **NIT Sikkim** during January-May, 2016.
- 3) Invited for lecture: “Satellite Image Processing” on Dec. 17th, 2016, in Winter School on Computational Intelligence in Pattern Recognition (CIPR-2016), held during 12th to 17th December 2016 at CSE Dept., National Institute of Technology (NIT) Kurukshetra, Kurukshetra, India.
- 4) **Co-cordinator** of International Workshop on Role of technological advances, incubation themes, and engineering skills (TAITES-2016) which was organized at CIT Kokrajhar, BTAD (Assam) during 21-23 January 2016.
- 5) **Member of Technical Program Committee** in **International Conference on Intelligent Communication and Computational Techniques (ICCCT'17)** during 22-23 December 2017, India.
- 6) **Member of Guidance committee** of **STTP course** organized by ACE, Mumbai during 4th -15th July, 2016.
- 7) The **External Practical Examiner** of software system lab for students of M.Tech. first year Ist semester (Computer science & Engineering) at Sobhasaria Engineering college, Sikar on May 30, 2009 as a faculty of Institute of engineering & Technology, Alwar (Rajasthan).
- 8) **Invited as External Examiner** to evaluate *M.Tech.* Students *dissertation* at **NIT Kurukshetra, INDIA**.
- 9) Google Scholar citation is **80** (h-index:5, i10 index: 2).
(<https://scholar.google.co.in/citations?user=zBCQXBQAAAAJ&hl=en>)

ATTENDED NATIONAL, INTERNATIONAL CONFERENCES & WORKSHOPS

- (1) Attended the workshop on “**Adhoc and Sensor Networks**” in *IEEE sponsored 2nd International conference on Wireless Communication and sensor networks*, 17-19 Dec 2006 at **IIIT Allahabad**, India.
- (2) Participated in *IEEE sponsored 3rd International conference on Wireless Communication and sensor networks*”, 13-15 Dec 2007 in **IIIT Allahabad**.
- (3) Participated in *IEEE sponsored 4th International conference on Wireless Communication and sensor networks*”, 26-29 Dec 2008 in **IIIT Allahabad**.
- (4) Participated in “**Summer School on Expert system and their applications (ESTA)**”, 10-14 June 2009 **IIIT Allahabad** supported by **Department of Information Technology, Ministry of Communication and Information Technology, Govt. of India, New Delhi**.
- (5) Participated in “**National Seminar on Radar Remote Sensing and its applications**”, 25-26 September 2009 in the Department of Electronics and Computer Engineering, **IIT Roorkee**.
- (6) Attended the one day workshop on “**Virtual labs in Surveying**” being developed under the **NMEICT project of MHRD, Govt. of India** and organized by the Department of Civil Engineering, **IIT Roorkee** on April 26, 2013.
- (7) Attended the **3rd ISI Workshop** for the North-Eastern Region on “**Pattern Analysis and Applications (PAA)**” organized by **Indian Statistical Institute (ISI), Kolkata** and Dept. of CSE, Bodoland University, Kokrajhar, Assam during March 7-11, 2016.
- (8) Attended the Short term course on “**Recent Advances in Computer Architecture**” in **IIT Guwahati**, Assam, India, during May 30 - June 03, 2016.
- (9) Attended the Workshop on “**Data Mining and Business Analytics**” organized by **Indian Statistical Institute (ISI), Hyderabad** and **National Institute of Technology (NIT), Ravangla, Sikkim** during November 16-19, 2016.